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ORIGINAL COMMUNICATIONS.

[XXII,]

ARTIFICIAL EYE.

THESIS BY C. E. CHASE, M. D.

It would appear, that in former times, when the eye and eyelids had been destroyed, or removed in consequence of disease, a painted imitation of these parts was sometimes applied over the front of the orbit, and kept in its place by means of a steel spring going round the temple to the opposite side of the head; but, at the present, by an artificial eye is generally meant a hollow semi-ellipse or hemisphere of enamel, colored to resemble the front of the natural eye, and introduced behind the eyelids. Enameled plates of gold were at one time used for this purpose, but artificial eyes are now made altogether of enamel and glass.

An artificial eye ought to be perfectly smooth, and of such a form and size as to cover the remainder of the natural eye without pressing much on it, or irritating it in any way. Its edge ought not to be sharp, but somewhat thick and round. The internal surface of the middle portion, which represents the cornea, ought to be concave, or at least flat, and not, as we sometimes find it, convex, which must necessarily give rise to pressure on the eye, unless it be much shrunk. Want of attention to these particulars is often the cause of the pain which patients feel from the introduction of an artificial eye, and which often leads them to resign all thoughts of continuing its use.

Artificial eyes have generally been made of a semi-elliptical shape, or like the half of the shell of an egg cut lengthwise; but of late a shallower form, approaching to the hemispherical, has been adopted as less likely to pinch the bulb on which the eye is placed, irritate the conjunctiva, cause an appearance of strabismus, or prevent the movements of the artificial eye.

Thinness and lightness are indispensable requisites of an artificial eye. When the eye to be covered is large, unless the artificial eye is thin, the lids are too much pressed out, and are prevented from executing their usual movements.

When the remains of the eye are irregular in form, it has been proposed to make the artificial eye so too, lest it should press unequally and injuriously against any part. When one or the other eyelid, for example, is partially adherent to the remains of the eyeball, unless the adhesion is removed by an operation, the diameter of the artificial eye from above downwards must be shorter than common, or have a notch in its edge opposite to the point of adhesion.

The particular hue of the white of the eye, the appearance of the vessels strewed over it, and the size and color of the iris, ought to be imitated from the sound eye, although certainly these are considerations much less important than that the artificial eye should be of a fitting size and form. The pupil ought to be represented at its medium degree of expansion, and the appearance of an anterior chamber ought to be given. The iris always looks darker when the eys is introduced behind the eyelids, than it does when examined in the hand.

The manufacture of artificial eyes is very simple. The part imitating the sclerotica is formed of white enamel, with a tinge of yellow. The posterior lamina of the central piece is colored and streaked to look like the iris; on the middle of this lamina a circular patch of black enamel is laid, to imitate the pupil; the superficial lamina is transparent glass. Threads of red enamel are spread over the surface in imitation of blood-vessels, and are melted in before the blow-pipe.

If the defective eye, which the patient is desirous of covering from view, is not larger than the natural size, an artificial eye may be worn without any previous surgical operation, but if there is a total staphyloma of the cornea and iris present, this must first be removed. The effects of any injury which has rendered the application of an artificial eye desirable, or of any operation which has been performed on the eye, must first be completely cured, and an additional space of some months must have elapsed, before the artificial eye can with propriety be tried. In some cases, indeed, from the great irritability of the patient, causing a tenderness and epiphora which cannot be subdued, or from the nature of the disease in which the loss of the eye took place, giving ground to dread lest irritation might excite some malignant affection, we are obliged to resign thoughts of applying an artificial eye.

The protrusion of a portion of iris, or a staphyloma racemosum, sometimes renders the wearing of a glass eye impossible, from the pain which is produced, till the protrusion is removed. If there is a prominent partial staphyloma at the upper or lower part of the cornea, the ordinary oval glass will not lie lengthways, as it ought to do, but turn round, so that its nasal end is down and its temporal end up. In this case, a hemispherical glass eye is more likely to answer.

In cases of eversion of the lower lid, the eversion may require to be cured by operation, before any glass eye can be applied. Symblepharon will require similar interferance. If the eye-ball has been extirpated, the sinuses of the conjunctiva are so much obliterated that there remains no seat in which an artificial eye may rest.

If there is no inflammation, no fungus excrescence from the eyeball or eyelids, no pain or irritation present, an artificial eye may be tried. The mode of introducing it is to lay hold of it by the lower edge with the thumb and forefinger of the right hand, moisten it, with the left thumb raise the upper lid, under which introduce the upper edge of the artificial eye, pressing it up into the upper sinus of the conjunctiva, till its most prominent part is hid, then to allow the upper lid to descend. The artificial eye is now to be supported with the right thumb, while with the left forefinger the lower eyelid is to be drawn downwards, which will allow the artificial eye to slide behind it into the lower sinus of the conjunctiva. If the edge of the artificial eye does not reach the sinus, but rests on the tarsus, it is too large, and a smaller one must be selected.

For some days the eye is to be worn only during a few hours. It is withdrawn with the aid of a gold or silver probe, of the thickness of a knitting-needle, the end of which is rounded off and bent into the form of a hook. With the forefinger of the left hand the lower lid is to be depressed, so as to allow the hook to be introduced behind the edge of the eye, which by this means is to be raised until it is no longer grasped by the lower lid; the eye immediately glides from under the upper eyelid, and is to be laid hold of by the left hand. The eye is to be immediately freed from the mucous which adheres to it, by rubbing it gently with a bit of soft rag, and then laid aside until next day. It ought not to be plunged into cold water, as this is apt to make it crack. If imperfectly annealed, artificial eyes are apt to crack, merely from the alterations of temperature to which they are exposed, when withdrawn in the evening, or replaced in the morning. The patient is soon able to introduce and withdraw the eye without assistance. While withdrawing it, he leans over a bed, or over a table with a towel spread on it, in order that if it falls it may not be broken.

If the eyeball has shrunk to a small size, the eyelids lose that support and elasticity necessary for the performance of their motions; the consequence is, that they soon become entirely motionless and sink into the orbit, while the cilia are inverted, and the sinuses of the conjunctiva, which in the natural state of the parts extend between the eyeball and the eyelids, gradually become contracted, and at last almost abolished. The superabundant tears and mucus cannot be properly excreted, being no longer pressed forward by the convexity of the eyeball, but gather behind the lids and adhere to their edges and angles, while the nostril of the same side feels dry. These symptoms are in general greatly lessened by the use of an artificial eye, which affords to the lids a new support, restores to them the elasticity necessary for their motions, and expands again the folds of the conjunctiva; while the renewed action of the lids serves to convey the tears and mucus to the puncta lachrymalia, as in the state of health. In such cases it is sometimes necessary to commence with a small artificial eye, and employ larger ones, proportionally as the folds of the conjunctiva will admit. We need not be afraid that a small eye will, in such circumstances, fall out from between the lids; for we may observe that the lids are enabled to open only in proportion to the size of the eye which is placed behind them.

We may begin with the use of a small plain eye, that is, one without a reprsentation of the iris. A series of such eyes ought to be kept by the oculist, and employed till the patient becomes accustomed to their use. The lids cannot in general be easily moved at first over an artificial eye, so that remains exposed to the foreign matters driven through the air, and both from this cause and from the first attempts of the patient to remove and replace it, is apt to become scratched, which very soon destroyes its appearance. Every two or three days a larger eye ought to be introduced, till at length the lids shall appear to have reached nearly their natural degree of expansion.

The iris and pupil of the eye which is to be used permanently must correspond in direction with those of the sound eye, and must not be placed nearer to either canthus than they are in it, else the patient will appear to squint with the artificial eye. Some artificial eyes are made for the right or left side only, and have more sclerotica above than below the iris, others are intended to be used on either side, and have the iris placed midway between the upper and lower edges of the eye. In all artificial eyes there is more sclerotica on the temporal than on the nasal side of the iris.

A properly adapted artificial eye performs the same motions as the sound eye, especially if the remains of the eyeball over which it is placed are considerable and are moved with facility by the recti muscles. The motion of the artificial eye, however, does not depend upon this alone, but also on the motion of the conjunctiva and its folds, into which the artificial eye is received, and which possesses a simultaneous movement with the eyeball and eyelids. Hence it is that, if the artificial eye is of a proper size, neither so small as to escape the grasp of the conjunctiva, nor so large as to prevent its influence, we find that it performs all the ordinary motions of the eye, even when the stumps which is covered is very small.

An artificial eye soon begins to suffer from the friction of the eyelids, and the effect of the tears and mucus, so that the cornea becomes dim from the glass losing its polish. It has been supposed that it is the Meibomian secretion which is chiefly detrimental. The polish is never completely preserved for longer than three or four months; and generally in six months the whole surface of the eye is hazy and slightly rough. The red threads, imitating blood-vessels, sometimes dissolve entirely, leaving grooves, before the cornea or sclerotica becomes altered. The rapidity with which this process goes on varies, depending on the peculiar qualities of the secretions of the individual. Their speedy waste, along with their extravagant price, puts them out of the power of any but those in easy circumstances; to use artificial eyes; although many persons in indigent circumstances, finding it difficult to obtain certain kinds of employment from loss of an eye, are desirous of wearing an artificial one. They must often submit, however, to conceal their defect behind dark colored glasses, or if the appearance of the lost eye is very unsightly, to cover it with a hollow shade. They ought never to adopt the practice of covering it up closely with a patch, which heats the parts too much, and renders them inflamed and swollen.

Enamel eyes which have lost their polish prove hurtful, their roughness exciting the conjunctiva to inflammation, excoriation, and the growth of fungous excrescences. When an artificial eye, therefore, is observed to have become dim and to be producing irritation, it must no longer be used, any irritation already present must be calmed, and when the parts are again perfectly free from pain or inflammation, a new artificial eye, or the old one replaced, may be applied.

When we wish an artificial eye made especially for any particular person, it is necessary to send to the enameler a drawing of the sound eye, representing accurately the color and other appearance of the iris, along with a model in wax or lead of the size and form of the artificial eye which is to be made, taking the convexity of the model from the sound eye, and marking on it the place and size of the iris and pupil, and the extent of sclerotica exposed when the eye is moderately open. The drawing and model ought to be kept by the enameler, so that at any future time the patient can have an eye made after them and sent to him, without further trouble.

In the use of an artificial eye, the strictest regard to cleanliness must be observed. Every (12) twelve hours it must be taken out, and freed from the mucus which adheres to it and accumulates in its cavity. The eyelids must at the same time be bathed with tepid water, and should there be any considerable relaxation of parts, or tendency to formation of pus or mucus, or both, and inflammation thus arising, a slight astringent wash should be used, and the edges of the lids smeared with some kind of salve. Should the conjunctiva appear swollen or fungus, it is proper to touch it with a lunar caustic solution.

Sometimes it is necessary to snip away hard fungus folds of the conjunctiva. This must be done cautiously, lest the sinuses be rendered too contracted to hold the artificial eye, or adhesions form between the eyelids and the eyeball.

[XXIII.]

DOUBLE ACTION OF DRUGS.

BY S. E. PEARRE, M. D., OAKLAND.

If one takes a large dose of opium it produces profound sleep, with a group of symptoms that shows a general depression of the whole nervous system; if he takes a small dose, it produces unusual wakefulness with cerebral and general nervous excitement. Camphor is a well recognized antispasmodic, yet, in fatal doses, it kills by tonic spasm. Ipecac is used both to allay and excite nausea. Aconite, Belladonna, Digitalis, Gelseminum, Varatrum--all indeed of the class that are used to depress the action of the heart in certain doses, are found in smaller doses to be reliable cardiac stimulants. The same opposite effects of large and small doses are found to hold good in remedies that are in any way narcotic in their action. These facts, with many others, distributed through the whole class of physiological remedies, have long been observed. I am not, however, aware that any one has called attention to the fact that it is a law of physiological remedies, that they have a double action, or rather an antagonizing action in large and small doses, both of which are strictly physiological, and both of which may be relied upon in administering for the cure of disease. There are few exceptions to this law, and probably they are only apparently so, and will be found to conform to the general law in doses different from those used in practice. Of course we do not expect such results from remedies that are chemical in their action, or in any way not strictly physiological. But whether this law has been noticed or not, I am sure that the practical bearings and importance of it, has not been sufficiently emphasized. The object of this paper is simply to point out some of the practical advantages of the law, leaving the practitioner to consider and apply them for himself, and not by any means to answer the questions growing out of the facts.

1. The fact that both of these effects are clearly physiological, *doubles our Materia Medica*. We have two remedies, or at least two uses, for every one that is catalogued under the use of either the large or small dose. The immense accumulated experience of the Allopathic school puts beyond all cavil the fact that the effect of the large dose may be relied upon as being regularly produced, and as being curative of certain symptoms and diseases. The experience of the Homeopathic school, though of more recent date, is sufficiently long and sufficiently varied as to place beyond doubt the effect that reliable effects and cures are secured by the small dose, and in symptoms and diseases where the indications are directly opposite to those where the allopath cures with the large doses. That harm may be done with a large dose on the one hand, and that absurdly small doses may be given on the other, does not invalidate the general truth. Both are right in using his dose for his group of symptoms. Both are wrong in not being willing to use the other dose in another group of symptoms. The intelligent and unprejudiced practitioner will avail himself of the advantage of each, and have a double advantage.

2. The fact that the effect of the one dose antagonizes the dose of the other, not only gives a wider range to its use, but gives us a much more intimate knowledge of the individuality of our remedies. Of course we do not give the small dose to antagonize the large one ; for that would only be to add to the size of a dose already too large. We are also enabled by the study of the group of symptoms of a remedy, and comparing it with the disease, to get a more thorough adaptation of the remedy to the disease, and this is true whether we are considering the group of the one dose or of the other.

3. We are in this way enabled to adopt remedies better

to the peculiarities of patients and to circumstances surrounding us.

4. These facts go far toward harmonizing the contradictory facts and philosophies of Allopath and Homeopath, and fully explains why one man does not get the same result from the same remedy that is obtained by another. One man introduces a new remedy, or a new use for an old one; the profession try it and the general voice as to its merit is about equally divided. Why? Simply because one man uses it in the same dose, and carefully for the same group of symptoms as the discoverer. Another, believing that if a certain dose produces a given effect, a larger or a smaller dose will act in proportion and in the same direction; and of course is disappointed and feels that the new remedy or new treatment is a failure.

[XXIV.]

ANEMOPSIS CALIFORNICA, OR YERBA DEL MANZO.

BY JOHN FEARN, M.D., OAKLAND, CAL.

Among the indigenous remedies of California that will come into considerable use in the near future, we think we may safely place in a front rank the plant whose name stands at the head of this paper. My attention was first called to it nearly four years ago by my friend, W. H. George, M. D., now of Independence, Inyo County, California. Dr. George sent a specimen plant last summer to C. G. Lloyd for analysis. The result of Lloyd's investigations may be found in the *E. M. Journal* for January this year. He says: " The plant proved to be Anemopsis Californica, of the Nat. Order Sanruraceal. It is a low perennial about a foot high, found growing in wet soils, in Southern California and Mexico; it sends up a simple, erect stem about a foot high, which bears a single clasping leaf, at about the middle, and ends in a head of flowers. The leaves, which are mostly borne from the root, are thick, firm, entirely smooth, and on leaf stalks that are pubescent on the edges. A prominent characteristic of the plant is the long stalons which it sends out much after the manner of the strawberry. The flowers are small, numerous and borne in a dense terminal spike, which is surrounded at the base by about six petaloid bracts, that give the whole inflorescence the appearance of a single terminal flower." Thus for Mr. Lloyd's description; and I have been particular to give it, so that those practitioners living in the country may look out for it and test it in practice.

Of course, our knowledge of its therapeutical properties is limited. The Whites and the Mexicans have used it for years as a domestic remedy. The root is the part used, and if taken and chewed, it soon gives proof of very decided medical properties as a tonic, stimulant, astringent and aromatic, it also has considerable reputation as an alterative. Dr. George tells me that the natives, or Spanish population, hold it as a panacea. "*Yerba Santa*" they very highly esteem, but the "*Yerba Del Manzo*" as a universal remedy they think far excels it. The Dr. has frequently used it in bowel complaints where its stimulant and astringent properties make it valuable.

Also in gonorrhœa and that class of urinary difficulties where cubebs are found beneficial. As an antiemetic he used one or two drops of Fl. Extract in one teaspoonful of water with good effect. In one case of malaria where quinine had failed the "*Yerba Del Manza*" wrought a cure under the Doctor's observation.

As an external remedy it is used extensively in abrasions, bruises and indolent ulcers; in lung troubles, especially, in the alleviation of severe cough, it has a great reputation. And the Doctor's remarks are strengthened by a circumstance which took place a few days ago. Mr. Van Winkle, of Colusa Co., Cal., called at my office with a plant, and asked me to try and find out what it was. He said the natives were using it in consumption with very marked benefit; in some bad cases it seemed to have the power to lengthen the life of the patient, when other remedies were of little avail. I examined the plant and at once told him it was the "Anemopsis Cal." Although we do not expect this plant to turn out a "*Universal Panacea*" for all the ills flesh is heir to; yet from what I have stated above, it will be seen the plant deserves prompt attention. And Dr. George deserves great credit for adding to our Medical Armamentarium another agent which promises to be very valuable. I may say I have been informed that for a long time the plant was kept a secret as regards its worth by the natives, and that is one reason why it has not come into general use before now. I have prepared a Fluid Extract, dose from one to twenty drops, or even more according to indications to be met. I have only prescribed it as yet in one case, therefore cannot speak experimentally, but I am favorably impressed by it. At another time I may have more to say about Anemopsis Californica, or Yerba Del Manzo.

EDITORIALS.

THE ECLECTIC STATE MEDICAL SOCIETY.

This Society holds its regular meeting at Oakland on Tuesday, the 8th day of June next. We hope there will be a full attendance. It is time the Society made a new departure, buried all its petty jealousies, and devoted its energies to the advancement of liberal views in medicine. There has been too much bickering, strife, and rule or ruin policy pursued in the past. Let peace and harmony prevail, and the *Eclectics* of this *Coast* will take the position to which they are entitled, as men of intelligence and medical culture. If there are bad men in the Society, let them be disposed of, and none admitted in the future but those who are like Cæsar's wife—above suspicion. Pull out the weeds, winnow the chaff from the wheat, remove the dross from the pure gold, and respect and prosperity will follow. Pursue this policy and membership will double in less than two years. There are many good men in this State who have not affiliated with the Society, whose every pulsation throbs in unison with eclectic principles, from the fact that the Society's doings were frequently like the gatherings of the "Sewing Society," rather than the calm deliberations of assembled medical wisdom.

We advise all interested in the cause of eclectic medicine to be in attendance. Draw closer together. Be united, shoulder to shoulder. You are aware that if certain bigots had their own way, hostile legislation would be enacted, which would debar you from practising your chosen profession. The spirit of proscription is not dead —it simply slumbers. The faggots are dry and ready, it simply awaits an opportunity to kindle them. Inaction and indifference is suicidal. There should be a general awakening along the whole line. If our principles are sound and good for anything, let us boldly maintain them, if not, as loudly discard them. We must not claim one thing and mean another. Honesty as men demands that we should be true to ourselves if we expect the public to be true to us.

These meetings can be made profitable if the members are imbued with the right spirit. Do not stay away and find fault with what is done, but be on hand to direct and guide with voice and vote. Never was there a time that demanded more concert of action than the present, and we hope every member will find it to his interest to come and bring along his friends to unite with the Society. We have the material to make a Society second to none in this or any other State. What we want is harmony, unity, singleness of purpose, and a determination to excel. We must have it.

BROMIDE OF ETHYL.

The bromide of ethyl was discovered by Serullas in 1827; but little attention was paid to its anæsthetic properties until Dr. Trumbull brought it to the notice of the profession in 1877. Dr. Levis, of Philadelphia, has had more experience with its use in general surgical operations than any other man. He reports over two hundred operations at the Pennsylvania and Jefferson Medical College Hospital, in which it was used by him with the most satisfactory results.

Dr. Levis claims three advantages for this agent as anæsthetic—rapidity of action, quickness of recovery, and safety. Just such an anæsthetic as the profession has been looking for. He administers it by pouring two drachms of the ethyl on a folded napkin, which is placed in contact with the face so that no air can be breathed which is not loaded with the ethyl vapor. The time required to produce complete anæsthesia is from one to five minutes. Great stress is laid on the impression being quickly made on the system, as otherwise, intellectual excitement and muscular action or rigidity is liable to be produced. Eleven drachms is the most the Doctor used at any one time, and forty minutes the duration of the longest operation.

Other Philadelphia physicians have been using the ethyl with the best results. But Dr. Sims, of New York, raises a warning cry against its use in long operations. He used it to perform Battey's operation, keeping the patient under its influence for an hour and a half, and using from four and a half to five ounces. The patient died twenty-one hours after the operation, in terrible agony, showing the characteristic symptoms of bromide poisoning--suffusion of the eyes, severe headache, constant vomiting, great thirst, scantiness of urine, and a peculiar restlessness.

It is evident that, however safe the bromide of ethyl may be in short operations, its use in operations occupying any great length of time should be continued with caution. We should like to hear from our readers who have had experience with its use. It is a valuable addition to the Materia Medica if it can be used with safety, even in short operations, and the patient recovers more quickly than from ether or chloroform, as is claimed by Dr. Levis.

MENORRHAGIA.

This term is applied to an excessive flow of blood at the menstrual period. It is the symptom of a disease, which may arise from various causes, and under different conditions of the system. The plethoric, in whom the vascular system is redundant with red blood corpuscles, and the anæmic in whom these elements of the blood are deficient, are both subject to this affection. Congestion, ulceration and fungous growths of the uterus, may be mentioned as some of the causes, while in many instances the most careful examination fails to reveal any structural lesion, but in these causes the difficulty may be traced to the sympathetic and vasso-motor nerve system.

The various circumstances, the different lesions, and pathological conditions under which this affection presents itself, shows the absurdity of treating a name or symptoms regardless of cause. Were it always confined to the same cause and condition of the system, its treatment would be a simple matter. But arising from various causes, the treatment must be varied in accordance with the conditions.

Primararily as in all cases of hemorrhage, the palliative treatment should be directed to checking and controlling the flow. This may be accomplished by elevating the foot of the bed, cold applications to the vulva, cold enemata, internal administration of hemostatics, such as gallic acid, ergot, the oils of erigeron and cinnamon, while the nervous system is quieted by some preparation of cannabis indica or other appropriate remedy.

In the majority of cases these means and remedies will be sufficient to control the difficulty, but in severe cases it will be necessary to introduce the speculum and plug the vagina with a tampoon of absorbent cotton saturated with a strong solution of alum, or a diluted solution of the officinal persulphate of iron. It may even be necessary in some cases, to freely inject into the uterus a solution of persulphate of iron diluted to one-third its officinal strength.

The curative treatment must be directed to the disease which produces the disorder. The practitioner must bear in mind that the hemorrhage is but a symptom, and in order to effect a cure the disease must be eradicated. If the trouble is congestion, ergot will be a valuable agent, in conjunction with hot water douches, and the local application of the following:

Iodoforim, ʒss.
Vasaline, ℥j.
M.

To be applied on absorbent cotton to the uterus. Ulceration should receive its appropriate treatment. Fungous growths should be removed by the curette.

When the hemorrhage is caused from excitement of the vaso-motor nerves, 10 grs. of bromide of ammonium repeated three times a day will be found a valuable remedy.

There can be no stereoytyped treatment for the arrest and cure of *menorrhagia*. Each case must be carefully analysed, the cause ascertained, and treatment directed to its removal to accomplish a cure.

SUMMER TERM.

The summer term of the California Medical College commences on Monday, the 7th day of June next. The prospects of a good class are quite favorable. The institution is designed to become the popular school of the Coast. The college is new and complete in every particular. Its halls are commodious and comfortable. Neither pains or expense have been spared to provide every facility for demonstrating lectures.

Tickets for the course, $20. This amount is applied on the regular term, so that in reality, attendance involves no additional expense. It consists of lectures, recitations and clinical instructions, conducted by the regular professors. The advantages of attending this course is great. Subjects which receive but a passing notice during the regular term, are fully discussed.

The season is pleasant for the practical study of anatomy by dissections. It it best to devote the time to it during this term, than when the student is crowded with lectures. The dissecting room is large, well ventilated and lighted, with abundance of material on hand.

BENNETT MEDICAL COLLEGE.

This popular institution during the past season had 131 matriculants, 37 of whom passed the required examination and received their diplomas. We congratulate Bennett on their prosperity, and hope the day is not far distant when their graduates yearly shall be numbered by hundreds. The high standard of qualifications, the rigid examinations, and the honesty and integrity of the faculty are meeting with just reward. Give us your hand, gentlemen.

RATIONAL MEDICINE.

The intention of medical science is, to afford a scientific or rational, as distinguished from an experimental or empirical practice of medicine—a "practice" in which a satisfactory reason is discovered, or discoverable, for the employing and relying upon its remedial expedients.

In order, however, to the intelligent or rational prosecution of any such intention, it is necessary to predetermine the adaptability of the means and methods of procedure to accomplishment of the end proposed. And to effect this, an understanding must be had of what is intended to be done; and the conditions on which its accomplishment depends.

Thus, the ultimate intention of practical medicine being, as it is commonly expressed, to cure disease, it is essential to comprehend *what it is* to cure disease; and the conditions of effecting the desired object. And the principles of medicine, therefore, as constituting the basis of a rational medication, should be fundamentally significant of what must be known, or determinative of what must be done, in order to the practical solution of these problems.

What is it, then, "to cure disease?" What is the nature and identity of the fact contemplated in this intention? For to effect this intention is manifestly to accomplish a "fact."

When, however, as in this instance, the fact is imperceptible, may not be scrutinized, it may not be identified or defined, except in or by its effects, And the apprehension of these depends, of course, on observation.

It has long been evident that the sensible, perceptible characteristics of disease—those determinate manifestations which prove its possession of the living body, are in fact, expressions of abnormal activities *or* (and) conditions occurring in the body, and injuriously affecting its comfort, endangering, and even destroying, its life. It is further observed that, while these abnormal actions and conditions persist, some or other, usually several, of the normal actions and conditions of the organs, or parts of the body, are arrested or deranged.

On the other hand, "when disease is cured," it is observed that these abnormal activities and conditions are arrested or removed; while the normal state and activities of the bodily organs and parts are restored. And these, and similarly significant, and primarly evident facts, discover the truths from which we must reason to the solution of the problems of medicine.

The facts mentioned, however, suffice to make it evident that, in the "cure" of disease, some activity is arrested, certain abnormal conditions are removed, *and* certain arrested or deranged normal actions and conditions are restored. And, such being the (aggregate) 'effect' of the 'fact' of "curing the disease," then, clearly, the "cure of disease" is, essentially, *the arrest of abnormal, and the re-establishment of the normal, causation of activities and conditions in the body.* And, so invariably have these effects been observed to result from, or attend, the "cure of disease," that it is rationally unavoidable to conclude that the conditions, which determine these results, are those on which the cure of disease naturally, and necessarily, depends; and that, if these conditions can be identified, and means devised to establish them, when necessary, the rational treatment of the diseased will be demonstrated and placed at our every-day command.

It is necessary, therefore, to explain those actions and conditions which are affected (arrested or removed, or restored), in the "curing" of disease. For all know that of any effect, whose continued production results from the persistent activity of its cause, we must know the cause in order to arrest production of its effects. And to attempt, intelligently, to produce, or to aid in producing any natural phenomenon, or the result of any natural causation, it is essential to know, at least, the means and conditions of effecting it.

We come, thus, immediately to the study of these questions. Physiology, as "the study of the state and activities of the body in health," discovers that all manifestations of action or condition in the living body, are expressions of the organic or vital activities or conditions of its organs and elements. And it further establishes that these result from the material constitution and structure, the vital properties, dynamtic endowments, and organic relations of these organs and elements.

And pathology, as "the study of the state and activities of the body in disease," proves all those activities and conditions whose manifestations characterize this state, to be accidents of some or other of the body's organs or elements.

It is, therefore, properly concluded that those actions and conditions, whose arrest and correction are so manifestly essential to the cure of disease, are certain abnormal organic, or vital actions and conditions of the organs and elements of the body, by which the characteristic activities of healthy life are accomplished. And that those requiring re-establishment, are those normal activities and conditions of the organs and elements, by which alone normal life is expressed, and of which it consists.

[*To be continued.*]

SELECTED.

ETHYL BROMIDE, $C^2 H^5$ BR.

BY I. E. COHN, A.B., M.D.

A great deal has lately been heard of this drug. Every month the physician on opening his medical journal is treated to a dissertation of "a new remedy," a "boon to mankind," a "specific for leprosy," a cure for cancer without the knife, etc.," and plenty of bosh and nonsense.

An enterprising Eastern house now steps forward and claims a great discovery, ethyl bromide, a new anæsthetic, claiming it to be better than the old stand-by, ether, and surpassable to chloroform, and not having the same deleterious effects of either.

Ethyl bromide is an old drug however, discarded many years ago in England, France and Germany, and is now reproduced in our enterprising country as a new thing.

Ethyl bromide, $C^2 H^5$ Br., one part of red phosphorus is put into six parts of alcohol and six parts of bromine added, the vessel being kept cool. After a time the mixture is distilled. The distillate is shaken with caustic soda, the oil which is formed and separates is freed of water and rectified. Colorless, heavy liquid, boiling at 40° spec. grav. 1.47. Bromine acts upon this compound, displacing its hydrogen, forming thus ethylidene bromide (ethyl bromo bromide), $C^2 H^4 Br^2. = C H^3. C H Br^2$. (colorless liquid, boiling at 110° (Wohler's Organic Chem. 1856.)

Dr. Hermann Hager in his Handbuch der Pharmaceutischen Praxis, Berlin, 1876, describes this drug fully and speaking of its use, says:

"Etyhl bromide as also ethyl iodine has been used as an anæsthetic. According to Richardson used with 90-92 per cent. atmospheric air produces no depressing action on the heart, and its effects are soon lost; however it has produced irritation of the pharynx and vomiting. Ethyl bromide is to-day out of use" This coming from such authority must dispel the illusion. Valet Ethyl Bromide.

Let us stand by our old and sure ether and chloroform, and gracefully submit to its after effects, or wait till we hear of another new discovery in ethyl-iodine.

The Germ Theory of Disease.

BY JOHN A. HENNING, M. D., REDKEY, IND.

The germ theory of disease is not by any means a new question. Linnaeus, the father of botany, over a century ago first propounded this theory, and gave it considerable attention; but he was alone in the study, and made but little progress, though his researches were of permanent value. But, as time advanced, other scientific men entered the field, who made some valuable discoveries and observations, and reported their results.

Prof. Obermeir, of Berlin, discovered minute fungoid growths, called spirillium, in the blood of patients suffering with relapsing fever.

Prof. Striker, of Germany, says: "Of all the modifications which the blood undergoes, the least understood, and, at the same time, the most important, is unquestionably that which is due to the admixtures with low organisms."

Prof. Klein, of London, discovered a kind of bacterium in the peritoneal exudation of pigs affected with pneumo-enteritis.

Dr. Sensino, an Italian physician "found that in nine necroscopies made, seven of the cadavers contained the parasite sclerostoma firmly attached to the mucous membrane of the duodenum and jejunum. After eroding this membrane, they suck out the blood, and, if there are many of them present, invariably produce intense anæmia. In a woman dying of anæmia at the hospital of Florence, the intestines were found to be very thin, pallid and almost transparent. Hundreds of these parasites, the sclerostoma, were in the jejunum and ileum. They were dead, and attached to the mucus membrane, which presented corresponding grayish ecchymoses. No other lesions were found sufficient to account for the profound anæmia."

Dr. Neftel, of New York, in 1868, says: "My experiments, so far, lead me to the conclusion that the lower vegetable organisms can continue to live and multiply in the tissues of living animals, and that they can enter into the general circulation, either through the intestinal canal, or through the respiratory organs, or by means of hypodermic injections. What their ultimate fate is in the animal organism, and what their importance in producing disease, further investigations will have to show."

Dr. Wartabet, of Edinburg, says: "The plague is one of those zymotic diseases whose origin is still unknown, though recent observers incline to the theory that they are produced by germs, as minute organisms, generated under favorable conditions, and which enter the blood and give rise to well-defined morbid phenomena."

Dr. Lawson has found the fluid of pyrosis to contain sarcinæ, torulæ, huge clusters of leptothrix and myriads of vibrios and bacteria, which by their presence keep up the irritation causing pyrosis and mucous dyspepsia.

Prof. Scudder says: "One of the finest hunting grounds for microscopic germs is a dirty mouth; and I have counted forty-three varieties and species in the dirt of the skin."

Prof. Richardson, of Philadelphia, in 1868, experimented by drinking four ounces of water supposed to contain twenty-seven billions of bacteria; in a few hours afterward he found bacteria in his blood, without any perceivable harm. But he further say, "the bacterial spores and rods are only the analogues of the seeds and roots of larger plants, and by no means entire organisms."

"Lord Somerville gave an interesting account of the effect of a punishment which formerly existed in Holland. The ancient laws of the country ordained men to be kept on bread alone, unmixed with *salt*, as the severest punishment that could be inflicted upon them in that moist climate. The effect was horrible. Those wretched criminals are said to have been devoured by worms engendered in their own stomachs."

Prof. Stille, when speaking of comparative pathology of cholera, yellow fever and malignant fever, says about the cause, that it is "evidently something received from without and swallowed; one opinion is, that it consists of certain microscopic fungi, or their germs."

Dr. W. Roberts, of Manchester, England, says in his annual address before the British Medical Association in 1877, that "the germ theory of disease is now established upon a firm experimental basis, and, if grasped in capable hands, will very soon give us most important aid in the struggle with disease."

Other most excellent testimony from scientific research might be produced, but the above is sufficient to answer our purpose, in establishing the question upon a firm foundation.

It is said by scientists that there are over twenty-five hundred species and varieties of these (invisible) germs, by which we are surrounded, and which permeate our bodies, inhabiting the various organs and tissues. Upon this basis the germ theory of disease proposes to account for the original causes and phenomena of all the contagious diseases. These spores, or fungi, have the power, in a good nidus and under favorable circumstances, of multiplying with great rapidity. When the system is in a normal condition these germs are harmless; but the slightest deviation from health gives them an excellent nidus, and, under favorable circumstances, they reproduce themselves rapidly. The soil, locality, climate, warmth and moisture, or dryness, aid materially in their production.

Germ signifies the entire process in which a new being originates, either vegetable or animal. The germs are so small that millions may be contained in one sixty-fourth diameter of an inch. A parasite is a living organism, springing from the germ, but living upon another organism. Fungi are morbid growths originally from the germ. With this explanation, our propositions may be somewhat better comprehended, and we will proceed to particularize as to some of those parasites which cause certain diseases.

Bacteria and microci are the parasites causing diphtheria; saracenia cause variola; fungi, measles; amebæ, with their associates, forming colonies, many diseases of the respiratory organs, such as some forms of pneumonia, asthma, catarrh, laryngitis and bronchitis; sarcini ventriculi, many forms of dyspepsia; vibrios, general nervous depression, but particularly typhoid fever; the odium albicans and its associates, pseudo-membranous croup; mycelium, whooping cough; trichina spiralis, trichinosis; bacteria and odium albicans, erysipelas.

These parasites very generally unite and form colonies, and certain species have a particular affinity for certain parts, or organs of the system, producing certain diseases. They live in the healthy system without harm, but it furnishes an unfavorable soil.

We are now prepared to ask, What is life in health, and what in disease, especially in relation to germs? The protoplasm of the cryptogamic family in which mankind is more or less surrounded, is continually working; but so long as the vital forces are perfect, these forms are powerless, or lie dormant in the system. But in depression, either general or local, these germs or seeds may immediately, by cell-multiplication, produce certain diseases. The living cells of our bodies must not be confounded with germs. The parasite is a species possessing individuality; is an organism living upon an organism. Some of these germs live exclusively in cold weather, others in warm weather.

I am aware this germ theory of disease is yet in its infancy, but, admitting it to be correct, it seems as though we will have to study our materia medica anew. In combatting with terrible disease we must understand the primary cause. We must know what remedy to give, and why we give it. Prof. Lister has shaken the medical world from center to circumference, by his *antiseptic treatment*. His method is rather preventive than curative. Diluted carbolic acid, applied to wounds, prevents the bacteria and other parasites from forming, and thus wounds heal by first intention. Otherwise a low, parasitic grade of inflammation and suppuration would be the result. Prof. Whitford, of Chicago, says that terebinthina will utterly destroy the trichina spiralis, when given internally and applied externally.

The reason why hydrochloric acid, turpentine, carbolic acid, quinia and nitro-muriatic acid are excellent remedies in typhoid fever, is because they destroy the *vibrios*. Acetic acid will destroy the mycelium, which is recognized in diphtheria and pseudo-membranous croup. Borate of soda and salicylic acid are destructive of a species of odium albicans, which produces many cases of leucorrhea.

In dyspepsia, due to sarcinæ ventriculi, sulphite of soda will soon effect a cure.

Another large field for further scientific investigation is in reference to the effects of fermentation of food in the stomach. We have sufficient testimony to believe that *germs* are intermixed in many kinds of food we eat, and when fermentation takes place in the stomach, the germs find an excellent nidus.

Dr. Crowther, of London, recently said: "There can be no doubt that we have, in the hyposulphite of soda, one of the most valuable remedies for a large class of fungoid diseases, also many varieties of zymotic diseases or affections. It is also a potent remedy in certain intractable acute and chronic ulcers, whose origin and continuance seem due to some local irritant of a fungoid or bacterial nature." This is doubtless correct, and I have used the sulphite of soda in the same class of diseases with the most excellent success. These germs cannot be eliminated from the system alive; they must be destroyed, when they will pass out of the system, through the various channels, the same as worn-out tissue.

The ameba is a winter parasite, found in a number of respiratory diseases, and we get excellent results from the use of muriate and carbonate of ammonia, which destroy the parasite.

A very large per cent. of skin diseases are caused by either a vegetable or animal parasite. Some of these are confined to the skin, others are so subtle that, through the fluids or lymphatics, they quickly migrate to internal organs. This is particularly noticed in measles and scarlatina.

Thus it will be noticed that progress is being made in the germ theory. Valuable thoughts and discoveries are made daily in this direction. The duty of every physician in the land is to procure a good microscope, and to use it at every leisure moment he may have, especially during the prevalence of an endemic or epidemic disease. Thus each will be enabled to make his own discoveries, and present his mite to the profession for public inspection. —*Medical Times*.

Nausea During Pregnancy.

Nausea and frequently vomiting during the period of gestation, seemingly, of late, has almost become the rule instead of the exception, and the physician who easily and thoroughly succeeds in rendering relief is sure to receive the hearty "good wishes" of his patient. Many methods have been recommended, of late years, by the leading obstetricians of both Europe and this country. At the present time, the most favorite plan to insure relief is to cauterize the os uteri with angenti nitras or acidum phenicum, until a complete white covering of the cervix is formed. One application is frequently sufficient; but should the nausea continue or return, the application is to be repeated at intervals of from five to fifteen days. This method appears to have been extensively used with perfect safety, and attended with a large percentage of cures.

Another method is to dilate the os uteri to the extent of about six or eight lines, which has succeeded in quickly relieving some cases of persistent nausea. But dilation, unless very carefully accomplished, is attended with dangers which prudent physicians try to avoid. Of course the philosophy of these plans is well understood by practitioners.

In hunting through our modern materia medica for an efficient agent to control the irritation of the gastric nerves, I thought to try the amygdalus persica, as it had proven to be so valuable to check vomiting associated with various diseases. Consequently, some obstinate cases of vomiting during gestation were selected, and the fluid extract of amygdalus persica was given, in doses of from two to ten minims every half-hour. In all, twelve cases were thus treated, and the average length of time was forty-eight hours that the remedy was continued. Eleven of the ladies entirely recovered, not even experiencing any "morning sickness" for weeks after the medicine was discontinued. In the twelfth case, however, there was no apparent benefit from the drug, and cauterization of the cervix uteri was resorted to.

The success of the drug in the few cases treated would seem to indicate that, if the stomach were kept free from irritation of its lining membranes and nerves, there would be a great lessening of the severity of the reflex nerve impressions during the period of gestation.—*Medical Times.*

A Lecture on Coccygodynia.

BY EDWARD W. JENKS, M.D., L.L.D.

Your attention will be directed to-day to a disease of which little has been written, and yet an affection which may be met with by every practicing physician, although not very frequently by any. The disease is known as coccygodynia, coccyodynia, coccygalgia, or coccyalgia, and is an affection which seems to be peculiar to women. I am prompted to discuss the subject at some length now, as one of the patients of our clinic presents pronounced symptoms of the disease.

This patient has been treated for uterine diseases—a not uncommon occurence—as coccygodynia has many symptoms, which are frequently attributed to, or are sometimes associated with, either uterine or rectal disorders. She complains of pain in the coccyx when sitting upon a hard seat, that the pain is aggravated by coughing, sneezing, or defecation. A physical examination of the pelvis and pelvic organs having been made, we find all of her pains were aggravated in attempting to move the coccyx. The bones are not inflamed, necrosed, or apparently diseased in any way. When they are in a condition of perfect rest, there is no pain, but when moved by my hand, or by the contraction of muscles having a coccygeal attachment, or by change of posture, the sufferings are severe. Without dwelling at present upon this particular case, I desire to direct your attention to a general consideration of the disease designated as coccygodynia.

About twenty-five years ago, Sir James Y. Simpson directed the attention of the profession, in one of his public lectures, to a peculiar form of disease of the coccyx, which had heretofore had no place in the medical nomenclature, which he called coccygodynia. Since then this affection has been known as coccygodynia, coccyodynia, coccygalgia and coccyalgia.

The lectures of Simpson on diseases of women were begun twenty-two years ago, in the *London Medical Cazette and Times*, and continued to be published in that journal for the following two years.

These lectures were first published in the United States in 1863. In one of his clinical lectures, Prof. Simpson directed the attention of his class to a case of disease in the hospital, saying, "you will find, I believe, no description of it in any book." He further stated that he purpose subjecting the patient to an operation on account of her disease, such as, so far as he was aware, had never been performed before, or, as he qualified his remark, "at least under similar circumstances."

Although Simpson was the first to give a significant name to this affection, an American surgeon of distinction was the first to recognize its existence, as well as to operate for it.

The late Dr. J. C. Nott, of New York, but then a resident of Mobile, Ala., was the first to describe this disease in 1844, under the name of "neuralgia of the coccyx." He published the history of two cases in the *New Orleans Medical Journal*, one in 1844, and the other later, in which the symptoms were fully given. In each case the bones of the coccyx were extirpated, resulting in the complete relief of the suffering patients.

In consequence, Dr. Nott received many complimentary letters from prominent members of the profession, among which was one from Professor Charles Meigs, of Philadelphia, who attached great importance to the pathology and treatment of the disease brought to notice by Dr. Nott. It is related that the latter gentleman, in return for the complimentary remarks by Prof. Meigs, sent to him the two extirpated bones, which were annually exhibited by Prof. Meigs to his classes, as long as he continued to lecture in Jefferson College.

It was strange, that notwithstanding the publicity given to the papers of Dr. Nott, they failed to attract sufficient notice to become known to Simpson, and until quite recently there has been no allusion to the disease under consideration in the majority of the text-books upon either surgery or diseases of women.

The name first given to the disorder by Simpson, of coccygodynia, was dropped for a time, and it was generally designated "coccyodynia." In the clinical lectures of Prof. Simpson, published in 1863, the term "coccyodynia" is employed, but in the post humous work of Professor Simpson, edited by his nephew,* coccygodynia is the word again made use of. It has also been adopted in the nomenclature of Robert Barnes,† and many of the leading European gynecologists.

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* Clinical Lectures on Diseases of Women, by Sir James Y. Simpson, Bart. Edited by Alexander R. Simpson, M.D., etc., New York, 1872.

Coccygodynia is, etymologically, the correct term, rather than coccyodynia, coccygalgia, or coccyalgia, to designate this disease, the literal meaning of which is "pain in the coccyx." The name "coccygodynia" does not in the least define the pathology of the affection, it simply means "pain in the coccyx," as we speak of pleurodynia or mastodynia, to designate pain in the side or breast.

This disorder consists of a peculiar state of the coccyx, or the muscles attached to it, rendering their contraction and the movements of the bone very painful, presenting a condition analogous to vaginismus; or fissure of the anus, when disease causes painful contractions of the constrictor vaginæ, or sphincter ani muscles.

Coccygodynia is not infrequent, as many cases have been observed since the attention of the profession has been called to it by surgeons who had seen it previously without regarding it as a special disorder.

The most marked peculiarity of coccygodynia is the sensitiveness and pain about the coccyx when there is movement of the bone, or pressure upon it. Most of the patients affected by it are obliged to sit on one hip, or with one side resting upon a chair, and the dread of causing pain to the sensitive part makes them awkward and miserable; they dread sitting down, and the erect posture, putting some of the muscles upon the stretch, causes pain, and thus many patients, able neither to sit nor stand with comfort, become bedridden, and as a consequence of the supersensitiveness of the coccygeal region, are compelled to so support their persons with cushions, that no pressure is allowed upon the painful part. A deep inspiration, coughing, sneezing, or any sudden muscular movement, causes excruciating pain. Again, there are other cases where the symptoms are not so aggravated; some, when walking will have pain with every step, while others can walk without any painful sensation. Others, again, feel most pain when the bowels are evacuated, or under any circumstances in which the sphincter, or levator ani, or the ischio-coccygeal muscles are called into action. The pain in some instances is not acute, whereas in others it becomes perfectly intolerable.

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† A Clinical History of the Medical and Surgical Diseases of Women, by Robert Barnes, M.D., etc. Philadeldephia, 1878.

As the disease has symptoms which are frequently attributive to, or even sometimes associated with uterine or rectal disease, patients treated without obtaining the expected relief from their suffering and trouble despair of being cured, lose faith in therapeutics, and expect, but all in vain, that the menopause will end their chronic discomfort. In this connection the mention of the menopause is significant of one pecularity of this disorder, and that is the fact that it seems to be found only in women. Men may have inflammation or necrosis of the coccyx from traumatic causes, being analogous to coccygodynia, but the disease under consideration, upon the authority of the limited number of observers, when induced by traumatism, seems to be from the class of injuries to which the pelves of women alone are liable. It is an important fact that the disease frequently manifests itself from other causes than traumatic, as many cases occur where there is not the least indication of injury, inflammation, or any form of disease of the bone itself.

Drs. Simpson and Nott have found the disease exclusively among women; and Thomas, Barnes, Courty, Nonat, Gallard, Le Blond, Sinéty, and other recent authors, include this disease in their several works upon gynecology.

We have the most convincing proof thrt the pain of this disease is due to the action of muscles attached to the coccyx, and this development is a necessary consequence of the greater size of the female pelvis. Then, again, as already stated, the pelves of women are subject to injuries to which the pelves of men are not liable. Dr. Simpson says that it is by no means very easy to understand why the action of particular muscles should be attended with the production of pain in particular instances. It may be that the disease is confined to the tendons of the muscles, or the portion of the coccyx from which they spring ; or possibly, certain muscles, during their action, may bring the bone in contact with a supersensitive nerve or some inflammed structure, and thus give rise to the painful sensation.

Dr. Nott, in a paper which was published in the *American Journal of Obstetrics* (vol. i., No. 3), and read by him before the New York Obstetrical Society, on Coccygodynia, spoke of an article taken fron Virchow's *Archives of Pathology* (1860, vol. xviii.), on the "Glandula Coccygea of Man," in which an account is given of a small gland, usually about the size of a hempseed, situated on the anterior surface of the end of the coccyx, connected with filaments of the grangloin impar of the sympathetic nerve, and with the small branches of the arteria scrialis media, between the levator ani and the posterior end of the sphincter externus. The gland is rich in nerves derived from the terminal branches of the sympathetic, which form microscopic net-works performing the stroma, and are occasionally seen connected with gangloin cells. The writer says: "Although the function of the organ is at present unknown, it is already of great interest to the pathologist because it is not only the seat of the so-called coccodynia but also of the hygromata cystica perinealea.'' "Upon what observation," adds Dr. Nott, "rests the assertion that coccodynia or coccygodynia is caused by this gland I am not informed." Barnes also calls attention to the article just mentioned, and adds of the glandula coccygea: "When we consider its highly vascular and nervous elements and its position, we can hardly doubt that in some cases it may be the seat of coccygodynia." Other writers seem to attach no importance to the "grandula coccygea" as connected with this disorder.

It is well to bear in mind the anatomy of the parts, in order to have a better understanding not only of phenomena attending the affection, but of its pathology. There are attached to the coccyx, the greater and lesser sacrosciatic ligaments, the ischio-coccygei, the sphincter ani, and levator ani muscles, and some of the fibres of the glutei muscles.

Certain movements of the body, as defecation, rising from the sitting posture, walking, etc., bring these muscles into activity, and it is a well-known law that where any chronic irritation is brought to bear upon a muscle, there follows a tendency to spasmodic contraction, and acute pain is produced whenever an effort is made to elongate the contracted muscle.

I have alluded to the analogy between the disease under consideration and fissure of the anus and vaginismus. In these latter affections, irritation in the region of the muscles causes painful contratcions.

I am convinced, from cases coming under my observation, that the characteristic pain of coccygodynia is, in some cases at least, produced in the same way. Now we know that we can overcome the spasmodic contraction of vaginismus and fissure of the anus, by anæsthetizing the subject. I observed in one case, very markedly, that an attempt to examine a grumbling coccyx without an anæsthetic, caused the point to be drawn forward, and the muscles attached were made very tense, the contraction being accompanied by excruciating pain. The administration of ether caused the muscles to be relaxed, when the coccyx became exceedingly movable. Now, there is no pain in vaginismus or in fissure of the anus, when there is perfect rest of the parts, neither is there in coccygodynia; but, owing to the number of muscles attached to the coccyx, a slight movement of the body produces pain, because the movement involves their action.

This leads me to speak of the causes of this disorder. It need not be due exclusively to any injuries received during the process of parturition, for we find it among those who have never borne children, and even in the young and unmarried. Among the assignable causes, other than child-bearing, are direct injury inflicted upon the coccyx by blows or falls, certain forms of exercise, as riding on horseback, or undue exercise of any kind, exposure to cold or other climatic influences. I am myself convinced, from observation in several instances, that vaginismus, or fissure of the anus, or any source of irritation to the muscles included in the vaginal, perineal, or coccygeal region, may lead to this affection. Courty alludes to the local influence of cold in causing disease, and cites one case caused by the patient's habit of sleeping in bed with her "seat applied against the wall." Simpson and Scanzoni have observed the disease many times where the subjects had recently been in childbed. In nine cases mentioned by Scranzoni, the coccygeal pain was manifest immediately after the application of forceps.

As previously mentioned, there are some symptoms attending coccygodynia similar to those found in uterine diseases, hence the danger among a class of diagnosticians who class all troubles of women under the one head of uterine disorders, of mistaking one for the other, and of attributing the sufferings, of which they complain, to the sympathetic pain of affections of the womb.

Barnes,* writing of coccygodynia, states positively that he has "traced it to retroflection of the uterus."

Fonat† says, that with one of his patients this pain was caused by the introduction of a large vaginal speculum. Nonat is of the opinion that coccygodynia "presents two forms differing by the nature and by the location of pain." Sometimes this pain has its seat specially in the sacro-coccygeal articulation, and then it may be of a rheumatic origin, or from a traumatic cause. He says that in the first it usually proceeds from exposure to cold, whereas in the latter it is usually provoked by some exterior violence, as by a blow, a fall, an exaggerated distention of the articulation by the head of a fœtus, forceps, or speculum. This author believes that sometimes the affection is of a nervous nature, and offers all the characters of neuralgia.

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* Op. citat.

† Maladies de l'uterus, Paris, 1874.

It is then, especially, that it is to be ranked along with the neuralgic complication of uterine and peri-uterine affections.

Nonat, who has written but little that is valueless, expresses himself so positively and clearly on certain points regarding coccygodynia, that I quote further from him, not literally, but substantially in the abstract as follows: "When the coccygodynia is articular or sacro-coccygeal, it is argumented by pressure upon this point, by movements of the extremities of the coccyx. and by all changes of position a little '*brusque.*' It is also increased by a sitting position, and by efforts at defecation. The pain is of a lancinating character, and extends to neighboring parts.

"It can exist independently of all uterine or peri-uterine affections, but if present coincidently with one of these affections, it does not receive any modifications by their treatment.

"The neuralgic variety of coccygodynia does not occupy any seat as exclusive or as limited as the articular. The pain is more extended and more diffuse, extending to the parts near to the coccyx, sacrum, in the ano-perineal region, and in the direction of lumbar and sacral nerves. It is lancinating, and produces an hyperæsthesia of all of the skin in the sacro-coccygeal region; it is sometimes intermittent, while at other times it presents alternately remittences and exacerbations.

"These exacerbations are sometimes of extreme violence, they coincide more often with fluxionary and inflammatory recrudescence, which are themselves produced in uterine, or peri-uterine affections, particularly at menstrual epochs."

Neuralgic coccygodynia coexists, or alternates, sometimes with other neuralgic pains.

When coccygodynia is associated with disorder of the uterus or its annexes, it follows often a parallel progress with these diseases; increasing or diminishing with them, receiving a favorable influence from their treatment, and sometimes cured with them.

In some cases, however, the coccygeal pain is rebellious, and persists long after the uterine or peri-uterine disorder has disappeared. It then demands treatment for itself. Nonat seems to have devoted more space in his work than any other French writer has done to the consideration of this disorder. One of the very latest* volumes by a French author on "Diseases of Women," which, by the by, is an excellent work in many respects, devotes less than two pages to the subject of coccygodynia. In this chapter its pathological anatomy is disposed of in five lines, as follows: "There has evidently been described under this same title affections of variable nature. It is thus that there has been found lesions of the periosteum, or of the sacro-coccygeal articulation, an abnormal mobility, or an increased length of the coccyx."

With the exception of this remarkable clause, there is nothing on the subject, by this author, but what has appeared many times before.

A careful physical examination enables one to differentiate coccygodynia from any of the other disorders to which the region is liable. As a rule a valuable diagnostic sign is the extreme mobility, especially under the influence of anæsthetic of the supersensitive portion of the bone drawn forward by muscular action.

And now let us turn from the causes and the diagnosis of this disease to speak briefly of its treatment.

Cases of coccygodynia which arise from climatic causes may be similar to cases of myalgia in any of the other muscular structures of the body, will be of rather an acute type, and yield to very much the same treatment as is employed in myalgia.

Chronic cases of a mild character will sometimes yield to epispastics or mild blistering, anodynes administered either by the mouth or rectum.

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* Manuel Pratique de Gynæcologie, par le Dr. L'De Sinety, Paris 1879.

The hypodermic injection of morphia over the coccyx may overcome the irritability and painfulness of the muscles, and possibly effect a cure. But if the case does not improve in a short time under some of these modes of treatment we must have recourse to surgical art.

So far as my own experience has extended, I agree with the majority of those whose observations of the disease are on record, that in well-marked cases medicine is of but little avail.

Hence, we can understand why patients, deeming their disorder incurable, refuse to have further medical attendance. On the other hand it will not do to leave the disease to nature, as patients gradually become worn-out with pain, and while waiting for nature's tardy reparation, their vigor diminishes, oftentimes the chief reason being their inability to take any kind of exercise.

Courty, writing on the treatment of this affection, begins by the statement that "a cure is difficult to obtain." In illustration of this assertion he adds that in twenty-four cases observed by Scranzoni, ten only were terminated by cure, in nine there was simply amelioration; in the remaining five the definite results were unknown. The treatment employed was extremely varied, including leeches, blisters, belladonna, aconite, chloroform, morphine, etc.†

It would seem from this, that he relied only on medication, and did not, in a single instance, have recourse to surgical measures.

Courty further states that Horschelmann, of St. Petersburg, "obtained, in 1862, two cures, thanks to aconite," but both were children. This portion of the chapter concludes with the assertion that Simpson, who has seen all these means fail, first proposed the subcutaneous separation of the coccyx from its muscular attachments, and when this does not effect a cure he does not hesitate to remove a part, or the whole of the coccyx.

The divisions of the disease by Nonat have a practical bearing upon its treatment that should not be lost sight of.

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† Maladies de l'utrus, etc., par A. Courty, Prof. etc., Paris, 1872.

I took the position several years ago, in a published paper on the subject of this lecture, that the disease is not neuralgic, and that the majority of cases require surgical treatment only.* There was at that time but little literature relating to coccygodynia, and the conclusions regarding it were based almost exclusively on my own observations. Increased observation and knowledge leads me to believe that these may be typical cases of articular and neuralgic coccygodynia, and that medical treatment, to be intelligently directed, must depend on their differential diagnosis. Further, in every instance therapeutic means should be given a full and fair trial before having recourse to any kind of surgical operation. I say this on the authority of reliable observers, rather than from my own observation; the truth being, that while I have had some patients cured by the administration and local application of remedies, the majority of my patients with coccygodynia have been benefited only through surgical interference. It is taught that the treatment should be different in one variety than in the other. For instance: In the articular form it is important that the patient should repose in the horizontal position in bed, thus securing immobility of the pelvis.†

Each topical application of opium, or belladonna plaster, or chloral liniment, may often prove of service, but when the pain is severe more potent remedies are required, such as the hypodermic injection of morphine, or atropine, or a combination of the two.

In the neuralgic coccygodynia, according to Nonat,‡ "if the disorder does not yield to the treatment directed to the uterine or periuterine affection, with which it is so frequently complicated, it should then be treated as a simple neuralgia;" the use of topical applications are about the same as mentioned in connection with the articular form;

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* Coccyodynia. A paper read before the Mich. State Med. Soc., June 12, 1873. By Edward W. Jenks, M. D., etc.

† Nonat, op. citat., p. 1620.

‡ Op. citat., p. 1020.

hypodermic injection of morphine, or atropine, are essential in this disorder; rectal suppositories of opium and belladonna may by be used with great advantage. I have myself prescribed, with good results, particularly when the coccygeal pain was aggravated by defecation, suppositories of extract of stramonium. If the coccygodynia is of an intermittent character, our principal therapeutic reliance is quinine, which should be freely and persistently administered,

Nonat says that two cases treated by him, where all the means just mentioned had failed, he succeeded in curing by the use of the actual cautery applied all over the painful region. This author, who seems to have given medical therapeutics a fair and impartial trial, also concludes that the refractory cases that do not yield to treatment should be operated upon after the method proposed by Simpson.

I have spoken somewhat at length on the medical treatment of this disease, for the purpose of informing you how much you can reasonably expect from medication, and also to show you by what process of reasoning experienced gynæcologi-ts have come to the conclusion that while in some instances medical treatment will effect cures, there is a limit to it where surgical aid must be sought, and through which radical cures can alone be effected.

There are are two operations possible for the cure of this painful disorder, neither of which are attended with any great risk to the patient. The first I shall mention is a subcutaneous operation, originated by Simpson, which has for its object "the complete separation from the coccyx of the muscular and tendinous fibres that are in connection with it," upon a principle somewhat similar to common operations for fissure of the anus and for vaginismus. To effect this, a tenotomy knife may be passed underneath the skin at the inferior portion of the coccyx, then turned flat upon the bone, and all the muscular and tendinous attachments severed, first upon one side and then on the other, as far up as the sacro-coccygeal articulation. The operation is quickly and easily performed, attended with but little pain or loss of blood, and by this simple proceeding patients are not unfrequently instantly relieved from their sufferings, and permanently cured.

Simpson relates one case of a lady who had long suffered from coccygodynia, where, while he was performing this operation, the slender knife broke deep in the tissues.

He told the patient of it, and she at once raised herself up, alarmed to hear of the calamity; "but," he adds, "before I had done telling her what had happened, she had time, in sitting up, to discover that she had been cured of her disease, end, rejoiced at the discovery, quickly replied: 'Oh! never mind, my pain is gone—let the knife remain;' and there, for ought I know, it remains to-day."

The other operation is the extirpation of part or the whole of the coccyx. In every fleshy woman the proceeding just mentioned is not easily performed, and in the case of patients where the subcutaneous operation may have relieved for a time, but not permanently cured, amputation of the coccyx should be resorted to, as it effects a radical cure.

There are certain conditions where I would perform the latter operation instead of prefacing it by the former, as when we have reason to think the bone is diseased, and in such cases, as with one of my own, where the coccyx was extremely painful and movable, and with the point drawn forward by the action of the muscles, so that the mobile portion was about at a right angle to the remaining part, acting as a foreign body and as a constant irritant. I also deem it better to remove the bone when it is both supersensitive and anchylosed, which, however, is an exceptional condition.

The mode of operating for amputation of the coccyx is as follows: Anæsthetize the patient, and place her upon her right side, that the index finger of the left hand may be introduced into the rectum to press the coccyx backward, and as a guide during the progress of the operation.

Cutting down to the bone with a scalpel, it can be further separated from its attachments by means of scissors, or a knife, as we may choose, and selecting the location where amputation is to be made, we can then disarticulate at the joint, or follow the mode of Simpson, who used the bone-forceps and cut the bone without reference to joints. By one of the procedures mentioned, namely, separation or amputation, we can confidently expect a cure; and as neither is attended with danger, we are also able to class these operations among the satisfactory ones of surgery.

I cannot conclude without giving you two important points relating to amputation, which were taught me by my earliest operations, as follows: 1st. In case you amputate the bone by means of cutting forceps, remember that the bone of the stump should be "rounded off," so that there will be no sharp points to prick and annoy the patient whenever the skin of that region is made tense In one patient I operated upon, where the removal of the bones of the coccyx put an end to a long period of suffering in every respect, except the one just named, a second operation became a necessity.

2d. I believe that disarticulation is the better plan; and if you decide to operate by this mode, remember that in case there is articulate cartilage on the stump, it should not be allowed to remain intact; on the contrary, you should cut away thin slices of the cartilage, by reason of which the process of healing will be quickened and made more perfect.—*Medical Record.*

Methods and Results of Ovariotomy.

Dr. Goodell, of Philadelphia, reports eight cases of ovariotomy performed during the past year, with the result of six permanent recoveries, one temporary recovery, and one death. The fatal result in this last case was expected, on account of previous inflammation of the cyst. The temporary recovery was in a case of malignant papillary cyst of the ovary, which had burst and affected the whole peritoneal surface; the patient recovered from the operation, but died soon afterward, as was expected. Dr. Goodell attributes his low percentage of mortality partly to his growing experience, and partly to the use of the antiseptic methods. He used a five per cent. solution of carbolic acid for the atomizer, and also for the sponges and hands, but thinks it too strong for the latter uses, as it made the hands tingle, and seemed in two cases to prevent union by first intention. It does for the spray, because it is then diluted fully one-half by the steam. The advantage of including two ribbons of peritoneum in the abdominal stitches, was well shown in one case, where the wound would have gaped entirely open, if the peritoneal surfaces had not united. The quick union of these surfaces also prevents the pus from the wound above from getting into the abdominal cavity. This fatal case showed the need of using antiseptic precautions, even in the simple operation of tapping, to guard against the decomposition of the residual cyst fluid, or inflammation of the cyst wall from the introduction of poison germs. Dr. Goodell believes that the intra-peritoneal method of dealing with the stalk is the best, when autiseptic precautions are used. The only sound objection to it is the liabitity of the raw end of the stump to seal itself to a loop of the bowel and cause obstruction. In one case, to prevent this he doubled over inward the cut edges of the stalk, and stitched them together with fine gut, thus covering the raw surface with a lid of peritoneum. The ligature used for the stalk was always of fine carbolated silk, and the stalk was always transfixed and tied on either side. Gut was not used, because it is liable to become untied, and to be absorbed too early. In short and broad stalks, the thin and membranous, or broad ligament side, *i. e.*, the side opposite the one in which are the oviduct and ovarian ligament, is liable to slip out of the loop of the ligature and cause fatal hemorrhage. This happened in one of the cases, but was fortunately discovered in time. It may be prevented by using the cobbler's stitch, or by passing a gut thread through the outer edge of the stalk just above the ligature, and tying it in a knot. All the details of Lister's antiseptic method were carried out in these cases, with the exception of the dressing, which is bulky and stiff. Instead of it, salicylicized cotton was used, a thick and wide role of cotton was laid over the wound and gently pressed in between the wires. Long strips of adhesive plaster kept the cotton in place, and overall, a fine white flannel binder was pinned. This dressing was simple, and its elasticity brought the abdominal walls in firm contact with the bowels, and thus checked any persistent oozings, It was kept on as long as no odor could be detected, viz.; from a week to ten days. Dr. Goodell has discarded entirely the use of drainage-tubes, as he believes them not only useless but hurtful, from the irritation they produce. Ovariotomy should, in his opinion, never be performed except by the antiseptic method, and drainage is then needless, because the antiseptic clots do not break down, but become organized, and because, after the use of the spray, denuded surfaces of peritoneum heal up kindly without the formation of pus.—*The Clinical News, March 6, 1880.*

Phlebitis of the Lower Extremities—A Secondary Complication of Injuries of the Head.

Dr. H. G. Croly, of Dublin, has observed two cases of this unusual affection. In the first one, a Mr. K., æt. 35, met with a severe injury of the head by having been thrown with much violence from a carriage. He was unconscious for a short time after the accident; there was arterial hemorrhage from the left ear, vomiting of blood, and sanguineous effnsion in the left mastoid region, and, subsequently, facial palsy, but no injury whatsoever of the lower extremities. Consciousness was soon restored, but the arterial hemorrhage continued from the left ear for several hours. The patient suffered from the usual symptoms consequent on injuries of the head. The treatment adopted was the application of ice constantly to the head, James's powder, absolute rest, quiet, and a most carefully directed dietary. The head symptoms gradually subsided, and in a month the patient felt so well that he was approaching convalescence, and was anxious to be allowed out of bed. However, just a month and three days after the accident, he complained of acute pain in the left groin and thigh; the inguinal glands became enlarged, and very hard and painful to the touch. The pulse rose from 64, its normal number, to 100, and the temperature also rose to 100°. The foot also became swollen and painful, and the entire limb oedematous; the patient complaining much of the heavy weight, as well as the pain of the limb, which presented all the appearances usually attending phlebitis. From the 21st to the 30th of November, the pulse and temperature remained stationary at 100; both then fell gradually, the pulse to 64, the temperature bcoming normal. On the 7th of December the patient complained of pain in the opposite leg. The swelling which followed did not extend higher than the knee; severe rigors and perspirations occurred at the same time. The femoral and posterior tibial veins were hard and painful, and the pulse of the posterior tibial artery could scarcely be felt behind the internal ankle. The treatment adopted was leeches to the groin, anodyne draughts, hot sedative fomentations, linseed poultices, and elevation of the leg. The whole limb was wrapped in wadding, followed by stimulating and anodyne embrocations, besides friction and careful bandaging with flannel rollers, nutritious diet, and quinine The patient gradually and slowly recovered (but both legs, especially the left, remained swollen and oedematous for several weeks), and is now in good health and able to walk as well as ever. Case II. was in all essential respects exactly similar to Case I. The same line of treatment was adopted, and the patient is now recovering.—*The Med. Press and Circular, Feb. 25, 1880.*

Laryngeal Polypi.

The perfection of the modern laryngoscope has rendered the detection of these growths in the larynx quite an easy procedure, and when discovered, and their anatomical relations and make-up are definitely determined, modern therapeutics can often be called upon to relieve even the most skilled surgeon from attempting one of the most difficult operations known to the art. To pass an instrument into the larynx and seize and remove a small fibrous polypus, may appropriately be classed among the major operations in surgical practice.

After treating a few cases by this surgical method, and fully demonstrating that you can perform the operation as perfectly and scientifically as the laryngologists of Europe, you should treat a few cases by the simple method of using a medicine to disorganize these vascular and fibrous growths. For this purpose, nitrate of sanguinarina heads the list. One grain of this agent should be triturated with ten grains lycopodium until it is quite as fine as it can be made. An ordinary powder insufflator should be used to convey this powder into the larynx, and after the patient has drawn a full inspiration the powder is blown over the surface of the polypus. Half a grain of the above mentioned powder may be applied in this manner, and if required, repeat it in three days. The remnants of the tumor, however, will usually be coughed out in twenty-four hours after the first application, if the growth has been well covered over with the powder. In cases of similar growths in the nasal region, this powder is applied directly through a nasal speculum to the growths, or a solution of the nitrate of sanguinarina may be carried into the polypus by a hypodermic needle.—*Chicago Medical Times.*

Pilocarpus Pinnatus.

Recent developments have proven that joborandi, or the alcoloid pilocarpia, is one of the most valuable remedies in many exanthematous affections, especially in rubeola and scarlatina, where the characteristic eruptions are tardy, and especially if there is great rise of temperature, caused by a retention of body heat.

To cause rapid transpiration to the surface and increase elimination by the capillaries, full doses should be administered, and if by the stomach, should be accompanied with a full drink of water, and the body kept well covered with warm clothing. Under such circumstances, the eruption will usually make its appearance in from one to six hours, and there will be much less danger from congestion and other complications.

Since I have been using the pilocarpus and thoroughly developing the rash in these "eruptive fevers," I have not had much trouble from the "sequelæ" so common where the eruption is not thoroughly developed.

It is one of the best of our modern agents to reduce a high temperature quickly, by causing a rapid elimination of heat, through the agency of the sweat-glands, and if an agent is required to lessen oxydation, salycin or salycilate of soda may be given for that purpose, and continued in sufficient doses to retain nearly a normal temperature after the pilocarpus is discontinued.

Physicians have much to say about "malignant scarlatina" in their respective vicinities, but my impression is that the great majority of such cases would cease to be termed *malignant* if the physician in charge would *control the temperature* in the early stages ef the disease, and also assist nature to develop "the rash."—*Chicago Med. Times.*

Boils and Carbuncles.

These painful affections very often perplex the most skillful surgeons, especially when they occur in subjects that seem to be direct lineal descendants of the "ancient Job." Rational pathologists have frequently tried to associate "diseases of the kidneys," especially diabetes, with these affections. Many feruncular eruptions occur in persons who have chronic diabetes, but the great majority of sufferers from boils and carbuncles will be found free from any disorder of the urinary apparatus, but frequently such persons will be found with very defective capillary circulation, and one crop of "boils" after another is liable to continue, until the partial or complete stasis in the capillaries is prevented.

During the past two years, 1 have been permitted to cxperiment a little with some cases that afforded many points of interest, as they were seldom free from either carbuncles or boils.

In selecting a remedy to stimulate the peripheral nerves, and thus the capillary circulation, the physiological action of piperine seemed to fulfill the desired indication, and the remedy was administered in full doses every three to six hours, with the happiest results. In many of the cases no new feruncula appeared after the remedy was administered, and even those which had begun to form quickly disappeared.

In a few cases the piperine was alternated with tinct. arnica, especially if there was much hypertrophy of the tissues surrounding the carbuncles or boils. For a local dressing, extract of fresh arnica flowers or cosmoline, equal parts, was found to answer the purpose of allaying the local hyperasthesia and hyperæmia, and soften the skin and fascia about the slough. Piperine and cosmoline (or glycerine) may be used also, with much advantage, for the same reasons.

As a prophylactic of boils, pipera alba should be used freely, with vegetable articles used for food.—*Med. Times.*

SOCIETY MEETINGS.

The National Eclectic Medical Association will meet in Chicago, June 16, 17 and 18, and, without doubt, will be the largest assemblage of the kind held by the Association.

The California Eclectic Medical Society meets at Oakland, June 8th next.

The Ohio Eclectic Medical Association will be held at the City of Sprinfield on Tuesday, May 4 next.

The Illinois State Eclectic Medical Society will be held at the City of Springfield, Ill., Jnne 2 and 3 next.

The Iowa State Eclectic Medical Society will be held at the City of Des Moines, 9th and 10th of June next.

The Indiana Eclectic Medical Association meets in Indianapolis the second Wednesday (12th) in May next.

The Massachusetts Eclectic Medical Society (the annual meeting) will be held at the City of Boston, June 3 and 4 next.

The Nebraska State Eclectic Medical Association will be held at the City of Omaha, on the 8th and 9th of June.

State Eclectic Medical and Surgical Society of Michigan.

DOWAGIAC, Mich., April 1, 1880.

TO THE ECLECTIC PHYSICIANS OF MICHIGAN:

As is generally well known, this society was organized four years ago, and three years ago became chartered by special act of the Legislature, since which time it has been the only Eclectic Medical Society recognized or known in Michigan. It has now an active membership of fifty-three, as per last report. Transactions have been issued in pamphlet form each year—Series IV, this year, completing the first volume.

The next, and fourth, annual meeting of this Society will be held at Detroit on the last Wednesday in May, 1880 (the 26th), commencing at 10 o'clock, A. M., and will continue in session two days.

The platform of this Society is broad and liberal, restricting no one in his practice, but discouraging ostracism and bigotry in every form. The code of ethics is the Golden Rule.